

REMARKS

Applicant's undersigned counsel appreciates Examiner Vo's continued careful and thorough examination of the present application.

The claims have been rejected under 35 USC § 112, second paragraph, on the ground that the preamble in claim 47 is not consistent with the body of the claim. Claim 47 has been amended to overcome this rejection with no change in claim scope. All of the remaining claims have further been amended for consistency with the new preamble of claim 47. No new matter has been entered.

Claim 47 has been rejected under 35 USC § 102(b)/103(a) as being anticipated by or obvious over Zwick. This rejection is respectfully traversed. Claim 47 states that the foam layer is "deformable to accommodate a particular shape and contour to which the heat shield is to be bent and to generally conform in use without substantially damaging the cellular structure of the foam as a result of such deformation." This specific feature is nowhere disclosed in Zwick. Furthermore, this feature is not addressed in the Examiner's rejection based on Zwick. Nor would this feature be necessarily inherent from any teaching in Zwick.

Moreover, Zwick lacks another feature recited in claim 1, namely that the heat shield includes "a first metallic outer layer, a second metallic outer layer, and a foam layer disposed in between said first and second metallic outer layers." From Fig. 1 in Zwick, it is clearly seen that the reference includes only a single metallic layer, namely the backing sheet 1. Backing sheet 1 presses the resilient insulating assembly 5 directly against the car body part 2, with no intervening additional metal layer. See col. 3, lns. 39-41. Accordingly, Zwick lacks a second metallic outer layer as claimed, and clearly does not anticipate claim 47. As to obviousness, Zwick further states that the "resilient insulating assembly may thus act as a spring between the car body part 2 and the backing sheet 1," col. 3, lns. 42-43. It cannot be considered obvious to insert a second metallic outer layer between the insulating assembly 5 and the car body part 2, because that would destroy the ability of the insulating material 5 to act as a spring between the body part 2 and the backing sheet 1. For this reason, it is also clear that claim 47 is not obvious over Zwick.

For the foregoing reasons, the rejection of claim 47 based on Zwick is believed overcome.

Claim 47 also has been rejected under 35 USC § 102(b)/103(a) as being anticipated by or obvious over Ragland. This rejection also is respectfully traversed. The Examiner correctly acknowledges that Ragland does not disclose the deformability limitation of the foam as-claimed. But then, she incorrectly suggests that this property must nevertheless be inherent based on the following reasoning:

[I]t appears that the heat shield laminate meets all the structural limitations as set out in the claims. The foam layer is disposed between the two metallic layers. The foam layer has a thickness within the claimed range. The heat shield laminate is mounted to a body panel of an automotive [sic: automobile]. The laminate can be cut to form the various shapes desired for heat and/or sound barrier for particular end use applications.... Therefore, it is not seen that the foam could not have been deformable to accommodate...a particular shape and contour to which the heat shield laminate is to be bent and to generally conform in use without substantially damaging the cellular structure of the foam as the laminates of Ragland and the present invention are directed to similar products which serve the same purposes....

Office action, paragraph bridging pp. 5-6.

Respectfully, this is a similar inherency argument as has been made before and overcome based on different references earlier in prosecution. It is true that Ragland discloses an embodiment that includes a metal – foam – metal arrangement of layers. It is true that the heat shield in Ragland appears fastenable to an automobile. The thicknesses of the foam layers among the reference and certain dependent claims herein may be comparable. Ragland's laminate may be able to be cut to various shapes. Both Ragland's heat shield, and that claimed, may be directed to similar purposes (sound/vibration damping). **But none of this has anything to do with, or suggests commonality between, the respective deformability characteristics associated with Ragland's heat shield and the heat shield that is claimed.** That two foams are sandwiched between metal layers, have similar thicknesses, and are both intended for damping applications, absolutely does not suggest that they must have the same, or even similar, deformability characteristics. Nor does it suggest that they must have the same, or even similar, temperature resistance or vibration damping properties. It certainly does not suggest that they must have the same combination of all three of these characteristics. Ragland gives no indication that the disclosed heat shield is to be pressed against a contoured body panel so as to conform to that contour. As the Examiner herself has noted, nothing in Ragland teaches or suggests the

claimed deformability of the foam layer. Nor does anything in Ragland teach the claimed temperature or vibration resistances for a foam layer. Therefore, respectfully, the rejection of claim 47 based on Ragland has been overcome.


Claim 47 has also been rejected under 35 USC § 103(a) as being obvious over Poole in view of Ragland. This rejection is also respectfully traversed. The Examiner points out that Poole discloses a metal – insulator (polymer based blanket) – metal heat shield. She also points out that this heat shield is “easily manipulated with bending or folding into a mounting position,” (column 6, lines 60-65). Next, the Examiner acknowledges that “Poole does not specifically disclose the polymer based blanket layer being a foam layer.” Office action, p. 8. To supply this teaching, the Examiner has relied on Ragland.

Respectfully, this rejection is traversed. It is true that Poole’s heat shield appears to be deformable. But the insulating layer in that patent is made of fibers, not foam. It is not hard to imagine how a fibrous layer would be easily deformable without damaging it. But none of the references, including Ragland as discussed above, discloses a foam layer that also will provide this property, let alone while simultaneously providing the claimed temperature resistance and vibration damping performance. The combination of all of these features in a single foam, between two metallic outer layers in a heat shield, simply does not appear in any of the references. Poole relies on a fibrous layer to provide the deformability of the insulating layer in that reference. It makes no sense to argue it would have been obvious to substitute Ragland’s foam for Poole’s fibrous layer, unless it is known that Ragland’s foam will supply the *same deformability* so as not to destroy the utility of Poole’s heat shield, as set forth at col. 6, lns. 60-65 of that reference (cited by the Examiner). Respectfully, this feature is unknown from Ragland, and there is absolutely no reason to believe it is inherent. For the foregoing reasons, it is respectfully submitted that the rejection based on Poole/Ragland has been overcome as well.

It is noteworthy that after five substantive Office actions, the only reference the Examiner has found to disclose a *deformable* heat shield uses fibers, and not foam, as the intermediate damping layer. This further suggests the novelty of the claimed heat shield construction in the art.

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Respectfully submitted,
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